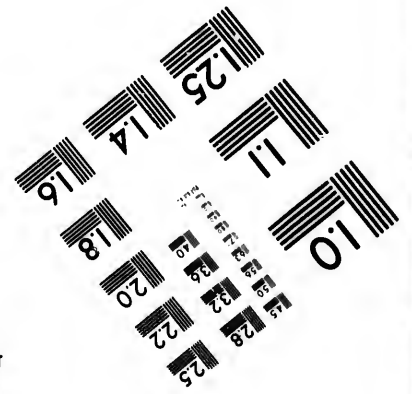
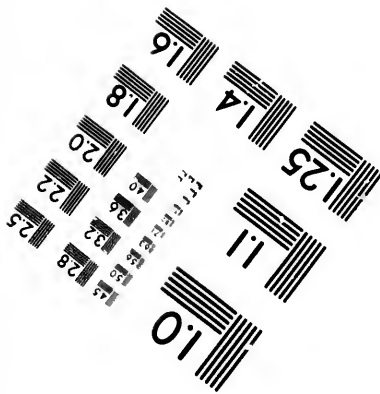
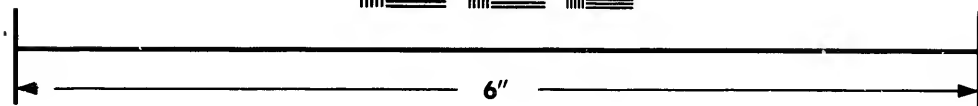
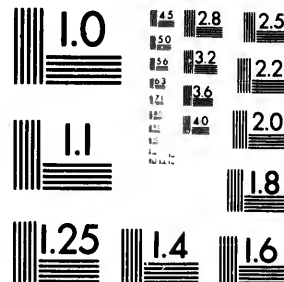


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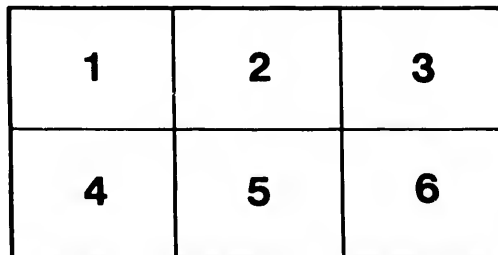
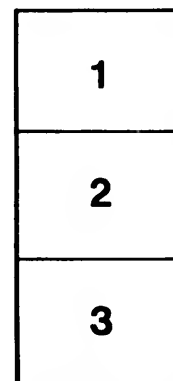
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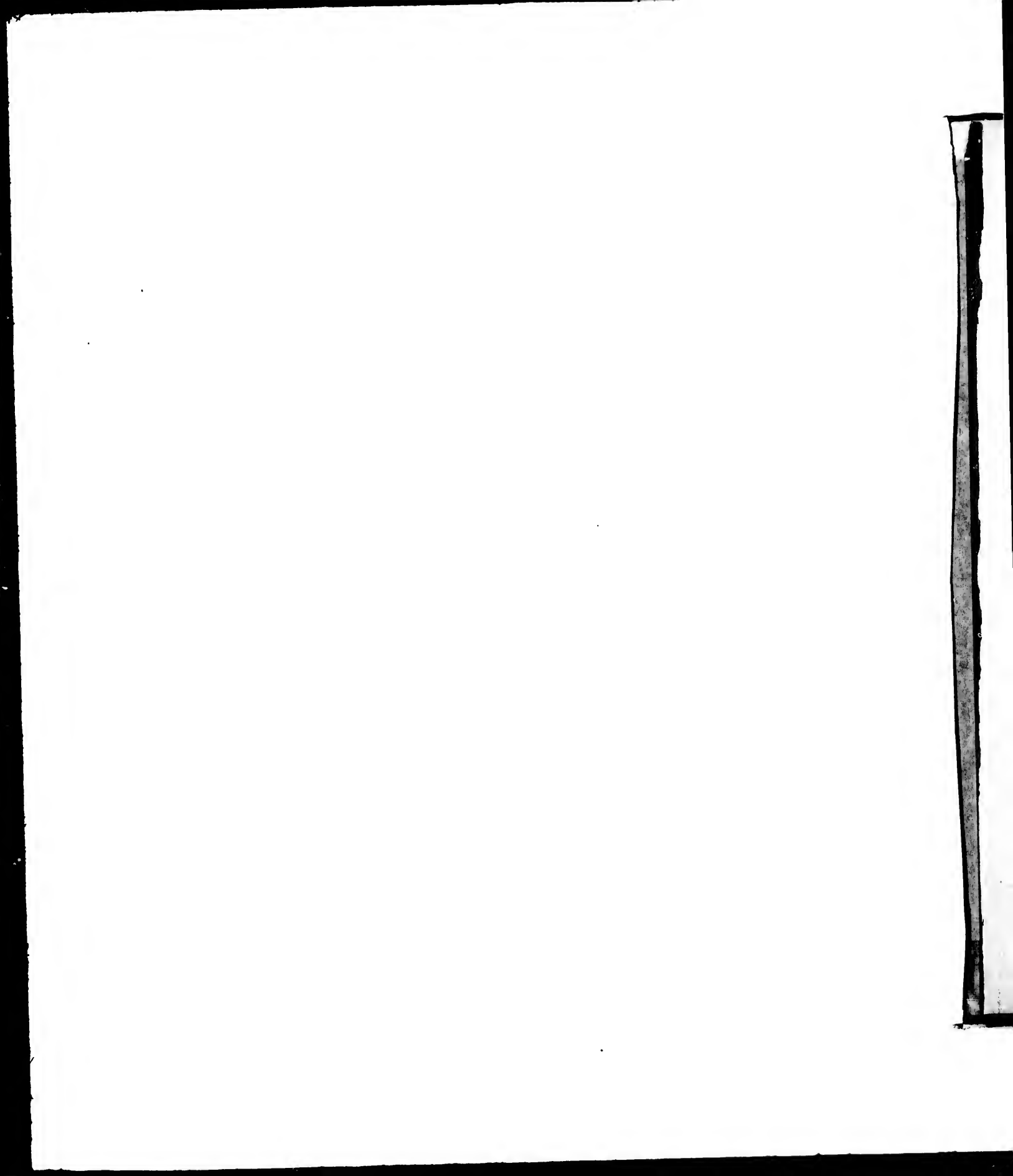
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THE LANGUAGE
OF
PALÆOLITHIC MAN.

BY
DANIEL G. BRINTON, M.D.,

Professor of American Linguistics and Archaeology in the University of Pennsylvania.

Read before the American Philosophical Society,
October 5, 1888.

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The Language of Palaeolithic Man.

By Daniel G. Brinton, M.D.

(Read before the American Philosophical Society, October 5, 1888.)

Archæologists tell us that the manufacturers of those rude stone implements called palæoliths wandered up and down the world while a period of something like two hundred thousand years was unrolling its eventless centuries. Many believe that these early artisans had not the power of articulate expression to convey their emotions or ideas; if such they had, they were confined to inarticulate grunts and cries.

Haeckel proposed for the species at this period of its existence the designation *Homo alalus*, speechless man. Anatomists have come forward to show that the inferior maxillary bones disinterred in the caves of La Naulette and Schipka are so formed that their original possessors could not have had the power of articulation.* But the latest investigators of this point have reached an opposite conclusion.† We must, however, concede that the oral communication of men during that long epoch was of a very rudimentary character; it is contrary to every theory of intellectual evolution to suppose that they possessed a speech approaching anything near even the lowest organized of the linguistic stocks now in existence. By an attentive consideration of some of these lowest stocks, can we not form a somewhat correct conception of what was the character of the rudimentary utterances of the race? I think we can, but, as I believe I am the first to attempt such a picture, I offer it with becoming diffidence.

The physiological possibility that palæolithic man possessed a language has, as I have said, been already vindicated; and that he was intellectually capable of speech could, I think, scarcely be denied by any one who will contemplate the conception of symmetry, the technical skill, and the wise adaptation to use, manifested in some of the oldest specimens of his art; as for example the axes disinterred from the ancient strata of San Isidro, near Madrid, those found forty feet deep in the post-glacial gravels near

* "L'homme ehelleen n' avait pas la parole," Mortillet, *La Préhistorique Antiquité de l'Homme*, p. 250 (Paris, 1883).

† See Dr. H. Steinthal, *Der Ursprung der Sprache*, S. 264, et seq. (Berlin, 1888), who rehearses the discussion of the point with sufficient fullness.

Trenton, New Jersey, or some of those figured by De Mortillet as derived from the beds of the Somme in France.* We have evidence that at that period man made use of fire; that he raised shelters to protect himself from the weather; that he possessed some means of navigating the streams; that he could occasionally overcome powerful and ferocious beasts; that he already paid some attention to ornamenting his person; that he lived in communities; and that his migrations were extensive.† In view of all this, is it not highly improbable that he was destitute of any vocal powers of expressing his plans and his desires? I maintain that we should dismiss the *Homo alatus* as a scientific romance which has served its time.

More than this, I believe that by a judicious study of existing languages, especially those which have suffered little by admixture or by distant removals, we can picture with reasonable fidelity the character of the earliest tongues spoken by man, the speech of the Palæolithic Age.

This primitive utterance was, of course, not the same everywhere. It varied indefinitely. But for all that it is almost certain that in all localities it proceeded on analogous lines of development, just as languages have everywhere and at all times since. By studying simple and isolated languages, those which have suffered least by contact with others, or by alterations in conditions of culture, we can catch some glimpses of the character of man's earliest significant expressions, the "baby-talk of the race," if I may use the expression. I have gleaned a certain number of such traits in the field of American linguistics, and present them to you as curiosities, which, like other curiosities, have considerable significance to those who will master their full purport.

The question I am about to consider, is, you will observe, quite different from that which concerns itself with the origin of *linguistic stocks*. Many of these unquestionably arose long after man had acquired well-developed languages, and when the cerebral convolutions whose activity is manifested in articulate expression had acquired a high grade of development through hereditary training. How such stocks may have arisen has been lucidly set forth by my learned friend Mr. Horatio Hale. He demonstrates by many ex-

* See, for instance, Plate x of Mortillet, *Musée Préhistorique; Cartailhac, Ages Préhistoriques de l'Espagne*, plate on p. 27.

† I have collected the evidence for this in an *Essay on Prehistoric Archaeology*, in the *Iconographic Encyclopedia*, Vol. II.

amples that in the present cerebral evolution of man, infants develop an articulate language with the same natural facility that any other species of animal does the vocal utterances peculiar to its kind.*

But in this essay I am contemplating man as he was before hundreds of generations of speaking ancestors had evolved such cerebral powers.

I begin with some observations on the phonetic elements. These are no other than what we call the alphabet, the simple sounds which combined together make up the words of a language. In all European tongues, the mere letters of the alphabet, by themselves, have no meaning and convey no idea; furthermore, their value in a word is fixed; and thirdly, arranged in a word, they are sufficient to convey its sound and sense to one acquainted with their values.

Judged by certain American examples, all three of these seemingly fundamental characteristics of the phonetic elements were absent in primitive speech, and have become stable only by a long process of growth. We find tongues in which the primary sounds are themselves significant, and yet at the same time are highly variable; and we find many examples in which they are inadequate to convey the sense of the articulate sound.

As exemplifying these peculiarities I take the Tinné or Athapascan, spoken widely in British America, and of which the Apache and Navaho in the United States are branches. You know that in English the vowels A, E, I, O, U, and the consonants, as such, F, S, K, and the others, convey to your mind no meaning, are not attached to any idea or train of ideas. This is altogether different in the Tinné. We are informed by Bishop Farad,† a thorough master of that tongue, that its significant radicals are the five primitive vowel sounds, A, E, I, O, U. Of these A expresses matter, E existence, I force or energy, O existence doubtful, and U existence absent, non-existence, negation or succession. These vowels are "put in action," as he phrases it, by single or double consonants, "which have more or less value in proportion as the vowel is more or less strong." These consonantal sounds, as we learn at length from the works on this language by Father Petitot, are also materially significant. They are numerous, being sixty-three in

* See his address on "The Origin of Languages and the Antiquity of Speaking Man," in the *Proceedings of the American Association for the Advancement of Science*, Vol. xxxv, p. 279.

† *Dix-huit Ans chez les Sauvages*, p. 65.

all, and are divided into nine different classes, each of which conveys a series of related or associated ideas in the native mind.

Thus, the labials express the ideas of time and space, as age, length, distance, and also whiteness, the last mentioned, perhaps, through association with the white hair of age, or the endless snow-fields of their winter. The dentals express all that relates to force terminating, hence uselessness, inanity, privation, smallness, feebleness; and also greatness, elevation, the motor power. The nasals convey the general notion of motion in repetition; hence, rotation, reduplication, gravitation, and, by a singularly logical association, organic life. The gutturals indicate motion in curves; hence, sinuousness, flexibility, ebullition, roundness, and by a linear figure different from that which underlies the Latin *rectitudo*, justness, correctness. The H, either as an aspirate or an hiatus, introduces the ideas of command and subjection, elevation and prostration, and the like.*

You will observe that in some of these cases the signification of a sound includes both a notion and its opposite, as greatness and smallness. This is an interesting feature to which I shall refer later.

Turn now to another language, the Cree. Geographically it is contiguous to the Tinné; but, says Bishop Faraud, who spoke them both fluently, they resemble each other no more than the French does the Chinese. Nevertheless, we discover this same peculiarity of materially significant phonetic elements. Howse, in his *Cree Grammar*, observes that the guttural K and the labial W, constitute the essential part of all intensive terms in that language, "whether the same be attributive, formative, or personal accident." Indeed, he maintains that the articulate sounds of the Cree all express relative powers, feebleness or force, independent of their position with reference to other sounds.

You may inquire whether in the different groups of American tongues the same or a similar signification is attached to any one sound, or to the sounds of any one organ. If it were so, it would give countenance to those theories which maintain that there is some fixed relation between sound and sense in the radicals of languages. I must reply that I have found very little evidence for this theory; and yet some. For example, the N sound expresses the notion of the *ego*, of myself-ness, in a great many tongues, far

* Petitot, *Dictionnaire de la Langue Dénée Dindjé*, Introduction.

apart geographically and linguistically. It is the sound at the basis of the personal pronoun of the first person and of the words for *man* in numerous dialects in North and South America. Again, the K sound is almost as widely associated with the ideas of *otherness*; and is at the base of the personal pronoun of the second person singular and of the expressions for superhuman personalities, the divine existences.* It is essentially demonstrative in its power.

Again, in a long array of tongues in various parts of the world the subjective relation is expressed by the M sound, as has been pointed out by Dr. Winkler; and other examples could be added. Many of these it is impossible to attribute to derivation from a

* Without carrying the comparison of the linguistic stocks beyond those most familiar to the ethnologist, I add the following comparisons to confirm the statements of the text:

<i>Dialects in British America.</i>				
	I	man	thou	divinity
Eskimo,	wonga	innult	wootik	
Athapascan,	ni-yun	tinné		
Cree (Algonkian),	ni	iyin	ki	okiskow
Ha-tah,		e-hiin	tun-ka	
Bilhoota,	inah			
Tshimshian,	nculo			
Kawitshin,	un-sa	onka	ni ki	
Chinook,	ni ka	kah-tin	mi ka	
Shahaptian,	ein uk	wins		
<i>Dialects in the United States.</i>				
	I	man	thou	divinity
Lenape (Algonkian),	ni	lenni	ki	oki
Choctaw,	unno		ch-	
Muskoki,	unneh			
Dakota,	on, un, (pl.)			wakan
<i>Dialects in Mexico.</i>				
	I	man	thou	divinity
Huasteca,	nana	inlo	xaxa	ku
Othomi,	nuga	nyoeh	n'ge	oqha
Nahuatl,	ni			
Tarasca,	ni			
Maya,	in, en	utnlo	ech	ku
Zapotoca,	naa			
<i>Dialects in South America.</i>				
	I	man	thou	divinity
Qquichua,	noka	khani	kam	huaka
Aymava,	na			huaka
Araucanian,	in-che			
Abipone,	aym		akami	
Carib (dialects),	n		k	

On the astonishingly wide distribution of the n and k sounds as primitive demonstratives, compare H. Winkler, *Uralaltische Völker und Sprachen*, s. 86, 87 (Berlin, 1884). For other comparisons, see Tolmie and Dawson, *Vocabularies of Inds. of British Columbia*, p. 128.

common source. Some writers maintain that sounds have a subjective and fixed relation to ideas; others call such coincidences "blind chance," but these should remember that chance itself means merely the action of laws not yet discovered.

You might suppose that this distinction, I mean that between *self* and *other*, between *I*, *thou* and *he*, is fundamental, that speech could not proceed without it. You would be mistaken. American languages furnish conclusive evidence that for unnumbered generations mankind got along well enough without any such discrimination. One and the same monosyllable served for all three persons and both numbers. The meaning of this monosyllable was undoubtedly "any living human being." Only after a long time did it become differentiated by the addition of locative particles into the notions, "I—living human being," "Thou—living human being," "He—living human being," and so on. Even a language spoken by so cultured a people as the ancient Peruvians bears unmistakable traces of this process, as has been shown by Von Tschudi in his admirable analysis of that tongue; and the language of the Baures of Bolivia still presents examples of verbs conjugated without pronouns or pronominal affixes.*

The extraordinary development of the pronouns in many American languages—some have as many as eighteen different forms as the person is contemplated as standing, lying, in motion, at rest, alone, in company, etc., etc.—this multiplicity of forms, I say, is proof to the scientific linguist that these tongues have but recently developed this grammatical category. Wherever we find overgrowth, the soil is new and the crop rank.

In spite of the significance attached to the phonetic elements they are, in many American languages, singularly vague and fluctuating. If in English we were to pronounce the three words, *loll*, *nor*, *roll*, indifferently as one or the other, you see what violence we should do to the theory of our alphabet. Yet analogous examples are constant in many American languages. Their consonants are "alternating," in large groups, their vowels "permutable." M.

* "Es hat offenbar eine Zeit gegeben, in der *ka* alleiniges Pron. pers. für alle drei Personen war, erst allmählich entwickelten sich *ko ka*, ego, *ka m*, tu, *ka y*, ille." J. J. von Tschudi, *Organismus der Ketsua Sprache*, S. 184 (Leipzig, 1884). In the language of the Baures of Bolivia when the verb takes the negative termination *apico*, the pronominal signs are discarded; thus, *era*, to drink, a drink; *erapico*—I, thou, he, we, you, they, do not drink. Magio, *Artic de la Lengua de los Indios Baures*, p. 82 (Paris, 1890). This reveals a time when both affirmative and negative verbals dispensed with pronouns altogether.

Petitot calls this phenomenon "literal affinity," and shows that in the Tinné it takes place not only between consonants of the same group, the labials for instance, but of different groups, as labials with dentals, and dentals with nasals. These differences are not merely dialectic; they are found in the same village, the same family, the same person. They are not peculiar to the Tinné; they recur in the Klamath. Dr. Behrendt was puzzled with them in the Chapanec. "No other language," he writes, "has left me in such doubt as this one. The same person pronounces the same word differently; and when his attention is called to it, will insist that it is the same. Thus, for devil he will give *Tixambi* and *Sisaimbui*; for hell, *Nakupaju* and *Nakapoti*."* Speaking of the Guarani, Father Montoya says, "There is in this language a constant changing of the letters for which no sufficient rules can be given."† And Dr. Darapsky in his recently published study of the Araucanaian of Chile gives the following equation of permutable letters in that tongue:

$$B = W = F = U = \tilde{U} = I = E = G = GH = HU. \ddagger$$

The laws of the conversion of sounds of the one organ into those of another have not yet been discovered, but the above examples, which are by no means isolated ones, serve to admonish us that the phonetic elements of primitive speech probably had no fixedness.

There is another oddity about some of these consonantal sounds which I may notice in passing. Some of them are not true elementary sounds; they cannot stand alone, but must always have another consonant associated with them. Thus, the labial B is common in Guarani; but it must always be preceded by an M. In Nahuatl the liquid L is frequent; but it is the initial of no word in that language. The Nahuas apparently could not pronounce it, unless some other articulate sound preceded it.

Albornoz, in his *Grammar of the Chapanec Tongue*§, states that the natives cannot pronounce an initial B, G, Y, or D, without uttering an N sound before it.

The third point in the phonology of these tongues to which I alluded is the frequency with which the phonetic elements as graphi-

* *Apuntes sobre la Lengua Chapaneca*, MS.

† *Arte de la Lengua Guarani*, p. 93.

‡ *La Lengua Araucana*, p. 15 (*Santiago de Chile*, 1888).

§ Albornoz, *Arte de la Lengua Chapaneca*, p. 10.

cally expressed, are inadequate to convey the idea. I may quote a remark by Howse in his *Cree Grammar*, which is true probably of all primitive speech, "Emphasis, accent and modifications of vocal expression which are inadequately expressed in writing, seem to constitute an essential, perhaps the vital part of Indian language." In such modifications I include tone, accent, stress, vocal inflection, quantity and pause. These are with much difficulty or not at all includable in a graphic method, and yet are frequently significant. Take the pause or hiatus. I have already mentioned that in Tinné it correlates a whole series of ideas. M. Belcourt, in his *Grammar of the Sauteux*, an Algonkin dialect, states that the pause may completely change the meaning of a word and place it in another class; it is also essential in that language in the formation of the tenses.* This is the case in the Guaraní of South America. Montoya illustrates it by the example: *Peru o'u*, Peter ate it; but *Peru ou*, Peter came; quite another thing you will observe.†

The stress laid on a vowel-sound often alters its meaning. In the *Sauteux*, Belcourt points out that this constitutes the only distinction between the first and second persons in participles. In the Nahuatl this alone distinguishes many plural forms from their singulars; and many similar examples could be cited.

With difficulties of this nature to encounter, a person accustomed to the definite phonology of European tongues is naturally at a loss. The Spanish scholar Uricoechea expresses this in relating his efforts to learn the Chibcha of New Granada, a tongue also characterized by these fluctuating phonetics. He visited the region where it is still spoken with a grammar and phrase book in his hand, and found to his disappointment that they could not understand one word he said. He then employed a native who spoke Spanish, and with him practiced some phrases until he believed he had them perfect. Another disappointment. Not one of them was understood. He returned to his teacher and again repeated them; but what was his dismay when not even his teacher recognized a single word! After that, Uricoechea gave up the attempt.‡

Leaving now the domain of phonology and turning to that of lexicography, I will point out to you a very curious phenomenon in primitive speech. I have already alluded to it in quoting M. Peti-

* *Principes de la Langue des Sauvages appellee Sauteux.* Introd.

† *Arte de la Lengua Guarani, ó mas bien Tupi.* Por el P. Antonio Ruis de Montoya, p. 100.

‡ *Gramatica de la Lengua Chibcha.* Introd.

tot's remark that in Tinné a sound often means both a notion and its opposite; that, for instance, the same word may express good and bad, and another both high and low. To use M. Petitot's own words, "a certain number of consonants have the power of expressing a given order of ideas or things, and also the contradictory of this order." In Tinné, a great many words for opposite ideas are the same or nearly the same, derived from the same significant elements. Thus, *son* good, *sona* bad; *tezo*, sweet, *tezon* bitter; *ya* immense, *ya* very small; *inla* one time, *inlasin* every time; and so on.

This union of opposite significations reappears in the ultimate radicals of the Cree language. These, says Mr. Howse,* whose *Grammar* I again quote, express *Being* in its positive and negative modes; "These opposite modes are expressed by modifications of the same element, furnishing two classes of terms widely different from each other in signification." In Cree the leading substantive radical is *eth*, which originally meant both Being and Not-Being. In the present language *eth* remains as the current positive, *ith* as the current privative. *It* means within, *ut* without; and like parallels run through many expressions, indicating that numerous series of opposite ideas are developments from the same original sounds.

I have found a number of such examples in the Nahuatl of Mexico, and I am persuaded that they are very usual in American tongues. Dr. Carl Abel has pointed out many in the ancient Coptic, and I doubt not they were characteristic of all primitive speech.

To explain their presence we must reflect on the nature of the human mind, and the ascertained laws of thought. One of these fundamental and necessary laws of thought, that usually called the second, was expressed by the older logicians in the phrase *Omni's determinatio est negatio*, and by their modern followers in the formula, "*A* is not *not-A*;" in other words, a quality, an idea, and element of knowledge, can rise into cognition only by being limited by that which it is not. That by which it is limited is known in logic as its privative. In a work published some years ago I pointed out that this privative is not an independent thought, as some have maintained, but that the positive and its privative are really two

* See Howse, *Grammar of the Cree Language*, pp. 16, 134, 135, 169, etc.

aspects of the same thought.* This highly important distinction explains how in primitive speech, before the idea had risen into clear cognition, both it and its privative were expressed by the same sound; and when it did rise into such cognition, and then into expression, the original unity is exhibited by the identity of the radical. Thus it happens that from such an unexpected quarter as an analysis of Cree grammar do we obtain a confirmation of the starting point of the logic of Hegel in his proposition of the identity of the *Being* and the *Not-being* as the ultimate equation of thought.

The gradual development of grammar is strikingly illustrated in these languages. Their most prominent trait is what is called *incorporation*. Subject, verb, direct object and remote object are all expressed in one word. Some have claimed that there are American languages of which this is not true; but I think I have shown in an essay published a few years ago,† that this opinion arises from our insufficient knowledge of the alleged exceptions. At any rate, this incorporation was undoubtedly a trait of primitive speech in America and elsewhere. Primitive man, said Herder, was like a baby; he wanted to say all at once. He condensed his whole sentence into a single word. Archdeacon Hunter, in his "*Lecture on the Cree Language*," gives as an example the Scriptural phrase, "I shall have you for my disciples," which, in that tongue, is expressed by one word.‡

So far as I have been able to analyze these primitive sentence-words, they always express *being in relation*; and hence they partake of the nature of verbs rather than nouns. In this conclusion I am obliged to differ with the eminent linguist Professor Steinthal who, in his profound exposition of the relations of psychology to grammar, maintains that while the primitive sentence was a single word, that word was a noun, a name.§

It is evident that the primitive man did not connect his sentences. One followed the other disjointedly, unconnectedly. This is so

* *The Religious Sentiment; Its Source and Aim. A Contribution to the Science of Religion.* By D. G. Brinton, p. 31 (New York, 1876). The statement in the text can be algebraically demonstrated in the mathematical form of logic as set forth by Prof. Boole, thus: $A = \text{not}(\text{not} - A)$; which, in its mathematical expression becomes, $x = x^2$. Whence by transposition and substitution we derive, $x^2 = 1$; in which equation $1 = A$. See Boole, *An Investigation into the Laws of Thought* (London, 1854).

† On *Polyynthesis and Incorporation*, in *Proceedings of the American Philosophical Society*, 1885.

‡ On the *Grammatical Construction of the Cree Language*, p. 12 (London, 1875).

§ Steinthal, *Grammatik, Logik und Psychologie*, s. 325.

plainly marked in American tongues that the machinery for connecting sentences is absent. This machinery consists properly of the relative pronoun and the conjunction. You will be surprised to hear that there is no American language, none that I know, which possesses either of these parts of speech. That which does duty for the conjunction in the Maya and Nahuatl, for instance, is a noun meaning associate or companion, with a prefixed possessive.*

Equally foreign to primitive speech was any expression of *time* in connection with verbal forms; in other words, there was no such thing as tenses. We are so accustomed to link actions to time, past, present, or future, that it is a little difficult to understand how this accessory can be omitted in intelligible discourse. It is perfectly evident, however, from the study of many American tongues that at one period of their growth they possessed for a long interval only one tense, which served indifferently for past, present, and future;† and even yet most of them form the past and future by purely material means, as the addition of an adverb of time, by accent, quantity or repetition, and in others the tense relation is still unknown.‡

In some tongues, the Omagua of the upper Orinoco for example, there is no sort of connection between the verbal stem and its signs of tense, mode or person. They have not even any fixed order. In such languages there is no difference in sound between the words for "I marry," and "my wife;" "I eat," and "my food," between "Paul dies," "Paul died," "Paul will die," and "Paul is dead."§ Through such tongues we can distinctly perceive a time when the verb had neither tense, mode, nor person; when it was not even a verb nor yet a verbal, but an epicene sound which could be adapted to any service of speech.

* In Maya the conjunction "and" is rendered by *yel*, a compound of the possessive pronoun, third person, singular *y*, and *el*, companion. The Nahuatl, *tluan*, is precisely the same in composition.

† Die meisten amerikanischen Sprachen haben die Eigenthümlichkeit, dass in der Regel die Haupttempora in Anwendung kommen und unter diesen besonders das Präsens, selbst wenn von einer bestimmten, besonders aber von einer unbestimmten Vergangenheit gesprochen wird. J. J. von Tschudi, *Organismus der Ketsua Sprache*, s. 196. The same tense is also employed for future occurrences. What classical grammarians call "the historical present," will illustrate this employment of a single tense for past and future time.

‡ The Chiquita of Bolivia is an extreme example. "La distinction du passé, du présent et du futur n'existe pas dans cette langue étrange." *Arte y Vocabulario de la Lengua Chiquita*. Por L. Adam, y V. Henry, p. x.

§ On the Verb in American Languages. By Wilhelm von Humboldt. Translated by D. G. Brinton, in *Proceedings of the American Philosophical Society*, 1836.

It is also evident that things were not thought of, or talked of, out of their natural relations. There are still in most American tongues large classes of words, such as the parts of the body and terms of kinship, which cannot stand alone. They must always be accompanied by a pronoun expressing relation.

Few American tongues have any adjectives, the Cree, for instance, not a dozen in all. Prepositions are equally rare, and articles are not found. These facts testify that what are called "the grammatical categories" were wholly absent in the primitive speech of man.

So also were those adjectives which are called *numerals*. There are American tongues which have no words for any numerals whatever. The numerical concepts one, two, three, four, cannot be expressed in these languages for lack of terms with any such meaning.* This was a great puzzle to the missionaries when they undertook to expound to their flocks the doctrine of the Trinity. They were in worse case even than that missionary to an Oregon tribe, who, to convey the notion of *soul* to his hearers, could find no word in their language nearer to it than one which meant "the lower gut."

A very interesting chapter in the study of these tongues is that which reveals the evolution of specific distinctions, those inductive generalizations under which primitive man classified the objects of the universe about him. These distinctions were either grammatical or logical, that is, either formal or material. That most widely seen in America is a division of all existences into those which are considered living and those considered not living. This constitutes the second great generalization of the primitive mind, the first, as I have said, having been that into Being and Not-being. The distinctions of Living and Not-living gave rise to the *animate* and *inanimate* conjugations. A grammatical sex distinction, which is the prevailing one in the grammars of the Aryan tongues, does not exist in any American dialect known to me.†

It is true that abstract general terms are absent or rare in the

* A striking example is the Chiquita of Bolivia. "No se pueda en chiquito, ni contar dos, tres, cuatro, etc., ni decir segundo, tercero, etc." *Arte y Vocabulario de la Lengua Chiquita*, p. 19 (Paris, 1880).

† These distinctions, apparently of sex, called by M. Lucien Adam *anthropic* and *met-anthropic*, *arrhenic* and *metarrhenic*, found in certain American tongues, belong to the material, not the formal part of the language, and, strictly speaking, are distinctions not really based on sexual considerations. See Adam, *Du Genre dans les Diverses Langues* (Paris, 1883).

most primitive tongues. On the other hand, we find in them a great many classificatory particles. These correspond only remotely to anything known in Aryan speech, and seem far more abstract than generic nouns. I will illustrate what they are by an example taken from the Hidatsa, a dialect of the Dakota.

The word for sled in that dialect is *mida-maidutsada*. The first part of this compound, *mida*, means anything of wood or into which wood enters. Fire is *mide* because it is kept up with wood. With the phonetic laxity which I have before noted, the first syllable *mi* may as correctly be pronounced *bi* or *wi*. It is a common nominal prefix, of vague significance, but seems to classify objects as distinctives. *Ma* designates objects whose immediate use is not expressed; *I* denotes instrument or material; *du*, conveys that the cause of the action is not specified; *tsa* intimates the action is that of separating; *da*, that this is done quickly (*tsa-da*, to slide).*

Thus by the juxtaposition of one classificatory particle after another, seven in number, all of them logical universals, the savage makes up the name of the specific object.

This system was probably the first adopted by man when he began to set in order his perceptions within the categories of his understanding with the aim of giving them vocal expression. It is a plan which we find most highly developed in the rudest languages, and therefore we may reasonably believe that it characterized prehistoric speech.

The question has been put by psychological grammarians, which one of the senses most helped man in the creation of language, or to express it in modern scientific parlance, was primitive man a *visuaire* or an *auditaire*? Did he model his sounds after what he heard, or what he saw? The former opinion has been the more popular, and has given rise to the imitative or "onomatopoeic" theory of language. No doubt there is a certain degree of truth in this, but the analysis of American tongues leans decidedly toward classing primitive man among the *visuaires*. His earliest significant sounds seem to have been expressive of motion and rest, energy and its absence, space and direction, color and form, and the like. A different opinion has been maintained by Darwin and by many who have studied the problems presented by the origin of words from a merely physical or physiological standpoint, but a careful investi-

* Washington Matthews, *Grammar and Dictionary of the Language of the Hidatsa* (New York, 1873).

gation shows that it was the sense of sight rather than of hearing which was the prompter to vocal utterance. But the consideration of the source of primitive significant sounds lies without the bounds of my present study.

It will be seen from these remarks that the primitive speech of man was far more rudimentary than any language known to us. It had no grammatical form; so fluctuating were its phonetics and so much depended on gesture, tone, and stress, that its words could not have been reduced to writing, nor arranged in alphabetic sequence; these words often signified logical contradictories, and which of the antithetic meanings was intended could be guessed only from the accent or a sign; it possessed no prepositions nor conjunctions, no numerals, no pronouns of any kind, no forms to express singular or plural, male nor female, past nor present; the different vowel-sounds and the different consonantal groups conveyed specific significance, and were of more import than the syllables which they formed. The concept of time came much later than that of space, and for a long while was absent.

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